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SYRUP OF PHOSPHATE OF IRON, QUINIA AND STRYCHNIA WITH PHOSPHATE OF AMMONIA.

By CHARLES D. POLK, M. D.

R.

Ferri sulphatis,	grs. 2625
Sodæ phosphatis,	℥ix
Acidi phosph. glacial.,	℥viii
Acidi nitrici C. P.,	℥vi.
Quinæ sulphatis	grs. 336
Acidi sulphurici dil.,	q. s.
Aquæ ammoniæ concent.,	q. s.
Strychniæ,	grs. xii ss.
Syrupi, q. s. ad	℥xlii.

Dissolve the sulphate of iron in seven ounces of boiling water, and the phosphate of soda in twelve ounces of boiling water; mix them in a precipitating jar and carefully wash the precipitated phosphate of iron; add the phosphoric acid to ℥xx of distilled water, apply gentle heat on a sand-bath until dissolved, then introduce the nitric acid, and continue the application of heat until the solution is reduced to the measure of seventeen ounces, or until the fumes of nitric acid cease to be evolved; dissolve the quinæ by aid of the dilute sulphuric acid in four ounces of water, and precipitate the alkaloid by aqua ammoniæ slowly added, and carefully wash; dissolve the phosphate of iron, the quinia and also the strychnia in 10 fluid-ounces of the acid by the aid of heat on the sand-bath, the alkaloids being withheld until the iron is dissolved; saturate the remaining seven fluid-ounces of the

phosphoric acid with the concentrated liq. ammoniæ, and lastly mix the two solutions in sufficient dense syrup to measure forty-two ounces.

This formula, which is based on the same principle as the ammonio-citrate, ammonio-tartrate and other salts of iron combining a neutral salt with an alkali base, produces a ferric syrup which is scarcely inferior to iron by hydrogen in therapeutical power, and surpasses all other syrups in permanency. I have never known it to precipitate the iron salt or undergo decomposition. It is too expensive and difficult to prepare to supersede Easton's formula, and although very superior to it in chlorosis, neuralgia and some types of anæmia, its use is more circumscribed, and must yield the palm to that splendid preparation as a general tonic. In diseases attended with derangement of the nervous system, I have derived very satisfactory results from this combination, even after I have failed to derive advantage from the syrup of Easton. In broken down cases of gout, rheumatism, scrofula, general cachexia, syphilis and uterine diseases attended with chronic engorgement and relaxation of uterus and appendages, I have often found it to exceed in efficacy my fondest expectations. In 1866, while surgeon in charge of the U. S. Quarantine Hospital, Charleston, S. C., I wished to make this preparation, but could not obtain the phosphoric acid, and was by necessity led to devise a formula by which iron, quinia and strychnia could be formed into a syrup without the aid of free phosphoric acid.

The liquor ferri citratis suggested to me a combination of the same strength in syrup form, independent of the pyrophosphate, in which the phosphate of iron would be held in solution by the aid of citrate of potassa. My first experiments with officinal freshly precipitated phosphate of iron did not give satisfactory results. I next precipitated the phosphate of iron from Monsel's solution by using twelve ounces of the crystals of phosphate of soda to sixteen fluid-ounces of the iron solution, and obtained not a very satisfactory syrup, but some of it, concentrated and dried between plates like the pyrophosphates, furnished very perfect scales of an olive green color and even more soluble than the pyrophosphate scales. By increasing the amount to seventeen ounces and six drachms of the phosphate of soda, I obtained a magma which, with about half the amount of potassa citrate required in the phosphate of the ammonio-citrate, without difficulty, by the assistance of gentle heat, formed a very perfect and permanent syrup of the strength of the liq. ferri citratis, or one hundred and twenty grains of the iron salt to the ounce.

Mr. Rother follows nearly the same process that I have been accustomed to follow, excepting he uses the ammonio citrate, while I have heretofore used the citrate of potassa; he uses the tersulphate, while I have used the subsulphate of iron. I now obtain a mixed syrup of proto- and sesqui-salt of iron, while his is a sesqui-salt. I believe mine to be a better medicine—his a better pharmaceutical product, and applicable to a more general use in forming ferrated syrups and elixirs, and supplying a real desideratum.

Mr. Rother manipulates thus :

R. Sol. ferric sulph.,	1 pint.
Sodium phosphate,	17½ oz.
Sol. of ammonium citrate,	q. s.
Sugar,	24 oz.
Water sufficient.		

Dissolve the sodium phosphate in 2½ pints of water with the aid of heat, and pour into it the solution of the ferric sulphate with constant stirring. After a short repose transfer the magma to several capacious filters, and wash it with water, stirring it up occasionally until the washings are nearly tasteless; now place the washed magma in a suitable evaporating dish, add six fluid-ounces of solution of ammonium citrate (prepared so that each ounce of the solution shall represent half an ounce of citric acid, the acid being slightly in excess), and apply heat. If the precipitate does not completely dissolve, add a little more solution of ammonio-citrate until the solution becomes perfectly clear by the continuance of a moderate heat, then evaporate it over a sand-bath until reduced to 20 fluid-ounces, add the sugar, and when this is dissolved, strain the syrup through muslin while hot. The product must measure two pints. It will then be identical in iron strength with the officinal solution of ferric citrate; and four minims of it will represent about one grain of dry ferric orthophosphate.*

With the syrup proposed by Mr. Rother, reliable ferrated elixirs of calisaya, gentian or pepsin can be extemporaneously formed.

I regard the following to be superior to any elixir of the same now in market.

Elixir Phosphate of Iron, Quinia and Strychnia.

R. Syr. phosh. of iron with ammonium citrate, . . . 3xvii.

* Pharmacist, p. 147 (1872).

Sulphate of quinia	grs. lxiv.
Strychnia,	grs. ii.
Curacoa cordial (white),	q.s. $\frac{3}{4}$ xvss.
Essential tinct. orange	ʒiii.
Dilute phosphoric acid,	ʒi.

Dissolve the quinia and strychnia in the Curacoa cordial by aid of the phosphoric acid, add the syrup of the phosphate of iron and lastly the essential tincture of orange. This forms a more reliable elixir than any found in the market; any druggist, with the syrup of the phosphate of iron, could extemporaneously form it as ordered, and thus avoid the cinchonia frauds so extensively practiced with this preparation by some manufacturing chemists; or, if economy be desired, the physician could easily order the cinchonia and the druggist dispense it.

I think Mr. Rother has really made a valuable contribution to pharmacy in this syrup, and believe it worthy of officinal recognition. It is not the iron tonic that the proto-phosphate, in point of energy, falls much below the phosphate with phosphate of ammonia in diseases attended with nervous prostration, yet the difficulty in procuring these of a reliable character is a great offset to their general use. As found in the shops they are mostly unworthy of confidence, while their inestimable value when properly prepared will always maintain a demand for them, although the miserably prepared syrup usually dispensed for Easton's differs as far from the learned Professor's preparation as the attenuated solution of hyponitrous ether as found in the shops differs from the spirit of nitrous ether of the Pharmacopœia.

The syrup of iron with ammonium citrate presents no inducement for fraud, and really resembles in appearance nought else but the syrup of the pyrophosphate, which is an apple green, while the syrup proposed by Mr. Rother is an olive green. As the pyrophosphate is more expensive and even more difficult to prepare, we would have nothing to fear from that direction. It could be prepared by the manufacturing chemists and obtained by the pharmacists of a reliable quality, from which all other ferrated syrups and elixirs containing phosphate of iron could be extemporaneously formed.

In thus recommending Mr. Rother's preparation over mine, I am led by a firm conviction that it is not only better, but fills a purpose heretofore unfilled as a reliable base for other preparations. I refer

to my syr. phosph. iron and potash citrate, which is prepared on precisely the same principle as Mr. Rother's, yet scarcely equals it in merit.

By using phosphate of ammonia in a saturated solution, I have succeeded very well in dissolving the magma thrown down from the sesqui-salts of iron by phosphate of soda, the liq. tersulphate perhaps giving the best result; but the subsulphate is very eligible. Any of the alkali salts will dissolve the sesqui-salts of iron if the acid be somewhat in excess, but ammonia possesses greater solvent power than any other, the citrate of ammonia being the best preparation for this purpose. By using the exact chemical equivalent of the phosphate of soda necessary to precipitate one pint of liq. tersulphate of iron (which is about ten ounces), as fine scales as those obtained of the pyrophosphate can be as easily made, and which are really more soluble. The olive green color heretofore alluded to contrasts in a marked degree with the apple green of the pyrophosphate.

The chemical character of the phosphate of iron with ammonio-citrate ($\text{Fe}^2\text{O}^3, \text{PO}^5 + 10 \text{HO}$), indicates that it contains a larger amount of iron and a smaller amount of phosphoric acid than the pyrophosphate ($2 \text{Fe}^2\text{O}^3, 3 \text{PO}^5 + 9 \text{HO}$). This salt of iron is worthy of further investigation.

A DEFENCE OF ELIXIRS, ETC.

BY JAMES W. LONG.

In the January number of the "Journal of Pharmacy" there appears an article on Elixirs, which is so unjust that I think a few words, however weak, in reply will do no harm.

The writer of the article referred to states that they have "grown into an undeserved popularity, both with physicians and the community at large."

While not having space in this article to quote *ad libitum* from Dr. Polk's essay, still the general tenor of it seems to be that most of these elixirs are "utterly worthless," and that the remedy seems to lie in a universal formula being adopted—"formulas that every retail druggist can follow."

Now, in the first place, it is rather a serious charge to state that many of our very finest manufacturing chemists are placing in the market, endorsed by their label, a line of articles the most of which are utterly worthless.

But take the argument in the abstract, What is an elixir? As I take it to be, a medicinal elixir is a preparation in which a crude material, by an admixture with aromatics, and by a sufficient maceration with a spirit of stronger absorbent powers than itself, together with the addition of syrup, is deprived of certain disagreeable qualities, and rendered more palatable and less nauseating.

The argument, as far as it relates to the retail druggist, seems to me a weak one; for, if he understands his business, he can make his own formulas, and if he does not know enough for this, he should try some other way of making his bread and butter.

As regards a universal menstruum for elixirs, I would respectfully ask, how is this to be done? You cannot treat pepsin with the same adjuvant you can cinchona, nor can you make a clear elixir of cinchona with the same constituents you can pyrophosphate of iron. So how can a universal formula be practicable to use for any elixir?

These elixirs are objected to on account of their novelty, and besides their secrecy. Now, I would ask, what novelty there can be, or what objection can be fairly made, when a pharmacist, or druggist, or chemist, or anything else you wish to call him, says practically to a physician, "Doctor, here is a pleasant preparation of iron—I call it the Elixir of Pyrophosphate of Iron; each tablespoonful contains five grains of the iron;" or, "Here is an elixir, where each tablespoonful contains three grains of pepsin, two grains of bismuth, and one-fourth of a grain of solid extract of nux vomica, in combination"?

If the word of this manufacturer is to be depended on, the physician should be satisfied as to the proportions; if not, then there is no telling whether his subnitrate of bismuth is pure, whether his quinia is not heavily adulterated with cinchonia in some form, or whether his tannin is not some miserable compound, the result of forty acres of woodland, razed promiscuously.

The elixir, as a pharmaceutical preparation, I claim is at once simple, and advantageous to all concerned. Its label tells what it is, of what drugs compounded, and in what proportions.

But here is another argument. Do not these elixirs reach cases that the drugs themselves will not? Take, for instance, an elixir of quinia and taraxacum, made with French brandy, simple syrup, cinnamon water, coriander, caraway, aniseed, orange wine, ground orange-peel, Powers & Weightman's sulphate of quinia, and Parke Davis &

Co.'s fluid extract of taraxacum; out of all these ingredients not only a clear solution may be made, but also a palatable one, of which a tablespoonful is the ordinary dose. Now, take this as a tonic or antiperiodic, is it not better than a dose of quinia or a dose of taraxacum? and, again, is it not better for the patient, especially if a weak, delicate woman, or a child (and for these this class of goods are intended more especially), than to sicken her with the nasty crudities? The patient has the quinia in his or her system, also the taraxacum, together with the brandy and aromatics, and this in one tablespoonful. I only give this as one sample. The patient is able to go about with no more nausea after taking the dose than before, and obtains besides the beneficial effect.

Copaiba can be made into an elixir, and deprived in a great degree of its nauseating qualities; and I shall take great pleasure in sending you a sample and formula as soon as I attain an entirely satisfactory result.

But, Mr. Editor, in conclusion I would like to ask you one thing, and I have no doubt that I am only one of many who would like to have you give your opinion in a full argument on this subject, and that is, By what rule or right, either moral or commercial, have either the profession or the trade to *demand* that these formulas be made public? Is it because it will help the cause of healing the sick? or is it because the intelligence of the whole world is against anything enveloped in secrecy?—that if the owners were not ashamed of it they would make it public?

In answer, I would say that if any doubt rests upon the constituents of these preparations there are the analytical chemists on hand. It is not a question of secrecy but a question of veracity and commercial honor between the physician who asserts that the elixirs of calisaya are not elixirs of calisaya and the manufacturers who assert that they are.

The reason why these formulas are not made public, I think, is this: One who takes a pride in his profession, and who is eternally devising some new way of making this or that, will in course of time stumble upon or find out something worth knowing. Even if this individual may not have a superlative education, still he may have perception enough to find what will render quinia less bitter, aloes, jalap and company less nauseating. He puts his idea into practical operation, and just as he is making a few dollars (the result of months and per-

haps years of experience, thinking and toil), the profession step in and, like Turpin modified, demand, "Your formula or your professional credit. We don't care if you do tell us that there is so much of this and that in it, we want to know *how* you do it, and besides we want it published in the journals."

Sequel. The formula is published in the journals, some rich chemical pirate sees it, thinks it is a good thing, gets it for nothing, and goes into it wholesale and retail, with gilt labels, plenty of advertisements, and lots of sale. The poor fellow who first got it up loses all except his self-respect, and for nothing else except to satisfy public opinion. Is this just?

Now I would suggest, with all due deference, a remedy. Let there be attached to the Philadelphia College of Pharmacy, with a channel of publicity through the "Journal," a library of formulas, these formulas to be acted upon by two or three professors of the College. Let them be divided into officinal (when accepted as worthy of that name), and unofficinal, with a subdivision of this class, according to merit, into A, B, C, D. As a reward to the inventor, let the College confer a diploma conveying a degree commensurate with the value of the formula, and attach to it, to pay the expenses, a fee of five dollars, upon the payment of which the inventor would be entitled to his diploma. This money would be willingly paid, and would show conclusively that he was the originator, no matter what thief would steal it after it became public.

Then, to crown the whole thing, with your December number issue a supplement (with a sufficient additional charge) of all these formulæ, classified, with the authors' names, etc.

This would change entirely the aspect of affairs, and the College would take the position it ought to take, *i. e.*, the intelligence and brains of the profession, standing on the dry, safe ground of experience, reaching out a helping, kindly hand to its children who are struggling in the mire, and seeking recognition from respectability.

Longwood, Mich., Jan. 13, 1873.

REMARKS BY THE EDITOR.—It is scarcely necessary to state here, that the position taken by our correspondent in this question is not our own. We hold that no pharmacist has a right to secret formulas for any medicinal preparation, regarding this as an ethical question which has long since been settled for the medical profession, the mem-

bers of which are in honor bound not to have any secrecy in regard to their mode of treatment or to the remedies employed. Whether or not the use by physicians of preparations made by secret formulas is tantamount to a violation of medical ethics, in letter or in spirit, is not for us to determine. But we know that if physicians and pharmacists had always acted upon the principles advocated by our correspondent, the days of antiquity would be still upon us, when the meagre knowledge was communicated from father to son, or from teacher to particularly favored pupils, when there was no pharmacy, and when the medicine man was merely a sorcerer and magician. If the numerous pharmacists and physicians, who have successfully labored to establish chemistry as an independent science, had kept their discoveries secret, our correspondent would now not be in the position of handling morphia, quinia, strychnia, or any other of the active principles of medicinal drugs, and chemical analysis, to which he refers, would be totally unknown.

The suggestion of our correspondent, to reward the inventor of a new formula with a degree commensurate with the value of the same, is novel merely in these days of supposed education and knowledge, and we doubt not would receive the hearty approval of all inventors of golden pills, expectorants, cures for consumption, invigorating bitters, and of the entire host of quack nostrums. Happily, the days of the middle ages are passed, when the maker of a renowned nostrum would be rewarded by those in authority with money and perhaps with titles for divulging its composition.

The action of the American Pharmaceutical Association at its last meeting, and of several local associations, in regard to elixirs and similar semi-nostrums, is evidence that there is an honest desire to suppress this nuisance of having in pharmacies a multitude of different preparations bearing the same name; and this movement will be crowned with success, if it meets with the favorable consideration of the medical profession.

For other points on the elixir question, we refer our readers to the Proceedings of the American Pharmaceutical Association for 1872.

PATENT MEDICINES AND PRIVATE FORMULAS.

BY CHAS. G. POLK, M. D.

Under this caption Mr. James W. Long makes some very excellent points in regard to one of the greatest curses to society at the present

day, in the December number of the "Journal of Pharmacy." But, while "the American people are fond of being humbugged," as Barnum most happily said, and are readily gulled by any and every variety of miserably trashy and forged certificates to swallow the abominable mixtures, syrups and pills concocted by an ignorant and heartless set of villains, who traffic in human life as though it be as merchantable as a piece of pork or a head of cabbage, the sister professions medicine and pharmacy have no right, on the one hand, to manifest indifference to this great and growing evil, or encourage it, on the other.

The medical profession display too much lethargy, and treat consumption of those vile nostrums by society as a matter which concerns them not.

It would also seem that interest, which is a powerful lever in human affairs, lies on the side of their consumption. The injuries they inflict oft give splendid opportunities for big, fat doctors' bills; although I am sure that the number who view the subject from that standpoint is very small.

Still the apathy they manifest is almost criminal, and permits the evil which a more vigorous action on their part might modify and lessen if it did not suppress.

With the druggist it is different; he regards the sale of those health-destroying agents as a part of his legitimate business. While he would not sell a glass of whiskey where he supposed there was chance of intoxication from it, he will unhesitatingly hand a bottle of a poisonous syrup to a young mother which may soothe her babe into eternal rest, or a bottle of almost as dangerous "expectorant" to the victim of pulmonary consumption, which will prove an effectual ally to this sure destroyer of human life. The victim of this fatal disease requires sustaining treatment; the impaired digestion, assimilation and sanguification needs aid and support. But do they receive it from the squill, senega and tartar emetic which compose the most popular quack expectorant of the day, and which is advertised as almost a specific for this disease? Alas! no; a combination more fatal cannot be found; they sap the very foundation of these functions, antagonize with the vital forces, and hasten the development of tubercles. Recently I heard an experienced physician say, "that the evil from this 'expectorant' counterbalanced all the good from cod-liver oil, that it annually hastened thousands into an untimely grave, and by

undermining the general health, no doubt in many cases where there was a strong predisposition, with irritation already existing on the lungs, it awoke this predisposition into activity and developed the disease."

Men may thus traffic in human life, rear temples of human blood, and grow rich on the wages of human deception; but, as sure as there is justice in Heaven, so sure will Divine retribution overtake those legalized murderers.

I would, however, be doing a great injustice to a very large portion of educated pharmacists to intimate that they entertained any sympathy for this nefarious business. They recognize the evil, deplore it, and find the remedy beyond their reach. Circumstances compel them to violate their strict sense of right—circumstances they cannot escape without yielding the business to men void of principle, who, incompetent for the duties of legitimate trade, would become the ready aiders and abettors of quacks. Then, however wrong in the abstract the selling of patent medicines may appear, there are but few druggists so situated as to be able to exclude them from their business. "What cannot be remedied must be endured," but it nevertheless is the duty to discourage, as far as possible, the use of patent medicines and proprietary formulas. Proper State legislation would greatly modify the evil, and this remedy is badly needed. The correct formula for each should be furnished, and a competent board appointed to determine its merit, with authority to exclude all possessed of objectionable constituents, or liable under ordinary circumstances to do harm. Let us have such legislation. No legal enactment is worse needed—none could do more good.

Hoping that this subject may receive the attention due it from the pharmacist and physician, I will not dwell longer on this disagreeable subject.

GRANULATED EFFERVESCING VICHY SALT.

BY CHAS. L. MITCHELL.

For the past few years the attention of pharmacists has been drawn to a class of preparations known by the name of Gran. Eff. Powders. They are principally of English manufacture, although some few are made in this country, and are intended to be used as substitutes for the mineral waters so much in vogue, and to possess the advantages of small bulk and stability. The Gran. Eff. Vichy Salt, or Vichy Pow-

der, is the most unreliable of these, generally becoming discolored after being exposed to the atmosphere for a short time. By the following formula it can be made so as to be free from this objection and keep perfectly white :

R _y .	Dry Bicarb. Soda,	.	.	3vij,
	" Powd. Sugar,	.	.	3xijss,
	" Precip. Carb. Lime,	.	.	grs. 252,
	" Carb. Magnesia,	.	.	" 64,
	" Carb. Iron Sacch.,	.	.	" 60,
	" Chloride Sodium,	.	.	3ij,
	" Sulphate Soda,	.	.	3ij,
	Powd. Citric Acid,	.	.	3x.

Mix all the articles well together ; powder, and pass several times through a No. 60 sieve. Then moisten the powder with f 3ijss stronger alcohol, to render it slightly damp and adherent, and then granulate through a No. 8 sieve. Dry the granules at a temperature not exceeding 120° Fah., and sift through No. 8 sieve. Bottle and keep dry.

A sample of Vichy salt prepared in this manner remained perfectly white after being exposed for over two months.

SULPHOVINATE OF SODA.

By CHARLES RICE.

Having prepared this salt for some time, and having tried several methods for obtaining it, I can recommend the following, as yielding a good product, at a moderate price :

Take of alcohol (sp. gr. 0.815), sulphuric acid (sp. gr. 1.830), each 64 fl. oz. Add the acid to the alcohol, contained in a large flask, in portions, at short intervals. At first, the temperature of the mixture rapidly rises to 212° F., and violent ebullition takes place at each successive addition of acid, but this gradually ceases as the specific gravity of the mixture increases, and the last portions of the acid may be added quite rapidly. Cover it well, and allow it to stand for two or three days. The mixture of alcohol and acid should not be raised to the boiling point, since the yield of sulphovinic acid is thereby considerably diminished, while that of oil of wine, ether, etc., is proportionally increased. Pour the mixture slowly, while stirring, into five times its bulk of water, and saturate the acid liquid with carbonate of lime. Strain the liquid, wash the precipitated sulphate of

lime, and add the washings to the filtrate, which now contains sulphovinate of lime. Add to the latter a solution of carbonate of soda, until it just ceases to give a precipitate. Instead of carbonate of soda, I have also used oxalate of soda, which, although requiring considerably more water for solution, and consequently a longer time for the final evaporation, has this advantage, that it effectually removes the whole of the lime salts, thus making filtration during evaporation unnecessary. Filter the liquid through filtering paper free from iron, to remove the precipitated carbonate of lime; wash the latter, and evaporate the filtrate until it measures about 70 fl. oz. Filter again from a small quantity of separated sulphate and carbonate of lime, and evaporate until a pellicle forms. Then set it aside for a few days, and remove the crystals. It is very difficult to obtain more than one or perhaps two crops of well-defined crystals; the last mother-liquors deposit a number of hemispherical, knob-like crystalline masses, of a pasty consistence and exceedingly difficult to drain. I now prefer to evaporate the liquid at once to a syrupy consistence, and then, under constant stirring, to evaporate to dryness.

The product is a white, granular salt, of a faint ethereal odor, and a cooling, somewhat aromatic taste; it is very deliquescent, soluble in 0.7 parts of water, at 60° F., also soluble in alcohol, with which it is capable of forming a crystalline compound. When pure, BaCl solution should throw down no precipitate, or at least produce only slight cloudiness.

The quantity of sulphovinic acid produced depends upon the specific gravity of the materials, and on the temperature employed; a decrease of the specific gravity and an increase of the temperature diminishing the yield. The liquid obtained by mixing alcohol and sulphuric acid of the above indicated densities, precautions having been taken to guard against loss, was found, after being cooled down to the original temperature, to have shrunk 3.5 per cent. in volume. The amount of uncombined sulphuric acid was determined volumetrically, with the following results:

Original amount of sulphuric acid taken, . 3458.90 gm.

Containing of dry SO₃, . 2594.18 gm.

Total amount of free SO₃ (dry), found in

the mixture, mean of three experiments, 1409.86 gm., or 54.3 p. c.

Hence total amount of SO₃ in combination, 1184.82 gm., or 45.7 p. c.

New York, Jan. 14, 1873.

YIELD OF MUSK FROM BAGS.

Editor of "American Journal of Pharmacy":

In the December number, page 565, the table of musk yield is of interest, and, having some facts, I will communicate them for publication:

Caddy.	Pods.	Original pods.	Musk.	Empty pods.
No. 1	24	20.75 oz.	7.125 oz.	13.625 oz. avoirdupois.
No. 2	20	20.75 "	6.500 "	14.25 " "
No. 3	29	24.00 "	7.000 "	17.00 " "
Total,	73	65.50 "	20.625 "	44.875 " "

Average for 1 pod, 392.5 grains; musk, 123.6 grains.

Respectfully,

THOS. J. COVELL.

Jersey City, N. J., Jan. 9, 1873.

ON CALABRIAN MANNA.*

By DANIEL HANBURY, F.R.S., F.L.S., F.C.S.

Manna, it is stated in the *British Pharmacopœia* (1867), is a concrete saccharine exudation from the stem of *Fraxinus Ornus*, L., and *F. rotundifolia*, D. C., which trees are cultivated for the purpose of yielding it chiefly in Calabria and Sicily. Of the method of collecting manna in Sicily, there are tolerably exact accounts; and the manna plantations of that island have also been fully described.†

Having never heard of manna plantations in Calabria, nor seen any modern account of manna-gathering in that region, I wrote in 1868 to my friend Colonel Yule, of Palermo, to inquire if he could furnish me with any particulars. Colonel Yule being unable to answer my questions, communicated them to Mr. Grant, British Consul at Brindisi, who, in his turn, sought to obtain the desired information from some of the British vice-consuls (Italians) in Calabria. But except the statement that the site of its production was the province of Calabria Citra, and especially the territory of Rossano, on the shores of the Gulf of Taranto, I was unable to gain any very precise knowledge on the subject.

* Read before a meeting of the British Pharmaceutical Conference at Brighton, August 14th, 1872. Reprint, communicated by the Author.

† See in particular a paper by Dr. Cleghorn, on the Botany and Agriculture of Malta and Sicily.—*Transactions of the Botanical Society of Edinburgh*, vol. x, 1868—69.

Here I may remind you of an investigation into the history of manna which I made in 1869,* and that one conclusion to which it led was this,—that manna was collected in Calabria for hundreds of years prior to it being a commercial product of Sicily, and that the earliest accounts of manna-gathering in the latter country, only date from the second half of the 17th century.

It will be well now to consider some remarks that have been made by travellers regarding manna as an object of industry in Calabria. Though they are only passing allusions, they suffice to show that this drug was at least a well-recognized production of the country in question.

Baron Riedesel, a German nobleman who made an interesting journey through Sicily and Southern Italy about a century ago, and whose travels have been published both in German and English,† travelled from Cotrone to Coriati, small towns on the eastern coast of Calabria. Of the latter he remarks, that “it is a bishopric of Calabria, . . . round which they collect the best manna and in the greatest quantity. The owners of the manna-trees are obliged to sell their manna to the king for a fixed price: the better sort, or what is commonly called *in cannoles*, for 2 *carlini* [8*d.*], and the worse, or *in frasca*, for 8 *grani* [3½*d.*] the pound. These revenues are farmed for 32,000 ducats [£5533] per annum. The greatest quantity is collected about Cariatì and Strongoli.”

About 20 miles west of Cariatì, is the small town of Corigliano, where, says the Baron, they also collect “*vast quantities of manna.*”

Half a century after this traveller, an Englishman, the Hon. Richard Keppel Craven, made a journey through Calabria, visiting among other places Cariatì, the vicinity of which was at that period still famous for manna. The following is from his published journal:‡—“The mountains near Cariatì abound with game, and the forests, which richly clothe their summits, furnish quantities of that species of ash which produces the manna, a considerable branch of commerce in this province, and more particularly esteemed from this district.”

The foregoing notices, scanty as they are, are yet of interest, as

* Historical Notes on Manna.—*Pharm. Journ.*, xi (1870), 326.

† *Travels through Sicily and that part of Italy formerly called Magna Græcia*, translated from the German by J. R. Forster, F. R. S., London, 1773.

‡ *Tour through the Southern Provinces of the Kingdom of Naples*, London, 1821.

coming from eye-witnesses, or at least from inquiries on the spot. Let me now add a few observations of my own, the result of a short journey during the present year, through a portion of the province of Calabria Citra.

First, when at Florence, I inquired for *Calabrian Manna*, addressing myself to the principal firm of wholesale druggists in that city. The answer I got was that Calabrian manna was an article they never purchased; but that if I wished to see the drug it was possible, as it so happened that a small keg of it had been sent to them for disposal. Of this offer I availed myself. I found to my surprise that the drug was a soft viscid mass containing small tears, mixed with fragments of leaves, sticks and dirt,—in fact, I regarded it of such very bad quality, that I declined a sample which was kindly offered me. I thought also that if I travelled into Calabria I should easily obtain much better, as well as all desired particulars respecting the trade in manna, of which, according to the latest edition (1868) of Murray's *Handbook for Southern Italy*, Calabria Citra is the "principal seat." I accordingly proceeded southward.

Around Florence, I may remark, and especially between that city and Pisa, the manna ash (*Fraxinus Ornus*, L.) is frequent, being one of the small low trees grown as a support for the vine. Except these examples, I hardly saw the tree until I reached the shores of the Gulf of Taranto, when I observed some very tall specimens in the strip of humid forest a little south of Policoro.

Journeying onward I arrived at Rossano, a town in Calabria Citra, of about 10,000 inhabitants, situated three or four miles from the sea. Here I learnt that the manna trees, which are called *Ornelli*, grow on some of the adjacent mountains,—that they are of large size, and are *not* cultivated,—that manna is obtained from them by incisions in the trunk made by the peasants in July and August,—that the manna got is mostly of the soft or fatty kind, very little of it being obtained in long white pieces or *cannoli*, and in some seasons none at all.

The collecting of manna about Rossano is at present, I was assured, a very small and insignificant branch of industry. Few persons among those from whom I sought information knew anything of the gathering of manna, or even of the existence of the manna-ash in the neighborhood. One gentleman, a principal inhabitant of the town, and holding an official position, to whom I had a letter of in-

troduction, assured me that the incising of the stems of the trees had been for the last four or five years forbidden by the Government; and the same statement was made by others. It is plain, however, that manna is still gathered about Rossano, though the amount is quite insignificant, for I obtained from a pharmacien in the town a specimen, being part of some he had purchased from a peasant the previous season.

Hoping for more information, and that I might at least obtain better specimens, I went to Corigliano, a small town, the mountains around which produce, according to Murray's *Handbook*, "the finest manna in Calabria,"—a fact without doubt perfectly true a century ago. Here I was told that no manna is now brought in for sale, the collection having entirely ceased. I called on five pharmaciens in the town: three of them had in stock no manna whatever; the fourth had some which he had purchased in Naples; but the fifth (Signor Giuseppe Guidi) had a box containing a pound or two of manna of the country, of which he kindly gave me a sample. He told me that it was old, none being now collected. This manna is a moist, semifluid, saccharine mass, of a dirty yellowish grey.

On the 5th of May, 1872, I reached Cosenza, the capital of the province, situated at the head of the valley of the Crati, in passing through which I observed a few trees of *Ornus*. The locality was anciently renowned for manna. Here I repeated my inquiries in several pharmacies, but in vain. At length I found one, the proprietor of which showed me some soft manna, which he said had been got near Cotrone. I discovered also in another pharmacie manna of two qualities, *scelta* and *in pasta*, both of which the pharmacien stated he had bought of peasants who had collected it at Rossano. The collecting of manna about Cosenza was quite ignored by most of the persons whom I asked for information. Those who had any acquaintance with the drug declared it was no longer an object of industry in that part of Calabria. One pharmacien asserted that the collection of manna had been prohibited for the last six or seven years.

The course of my journey having led me to Messina, I had the pleasure of making the acquaintance of Mr. Robert Sanderson, a merchant of that city of long standing, whose business in Italian produce includes the shipment of manna. On asking this gentleman about Calabrian manna, he informed me he was ignorant of such a commodity; and on my showing him some of the drug in the soft form in

which I had procured it at Cosenza, he expressed much surprise, and declared it to be unlike any Sicilian manna he had seen.

No specimen of Calabrian manna was contributed to the Italian Exhibition held at Florence in 1861; but there appear to have been three samples from Rogliano in the London Exhibition of the following year.*

From what I have already stated, the conclusion is I think irresistible,—that Calabrian manna as an article of commerce has practically ceased to exist, and that the collection of manna in that part of Italy is on the verge of extinction.

I regret that when at Rossano I was unable to visit the woods of *Ornus* which undoubtedly exist in that vicinity. But the habits of the Calabrian peasantry are such that it is impossible for travellers to quit the high-roads without personal danger.

The better to inform myself of manna industry, and especially that I might become well acquainted with the tree, I afterwards paid a visit to the manna plantations at Capaci near Palermo. I also inspected the trees which are cultivated at the *Istituto Agrario Castelnuovo* near that city,† and in the park of La Favorita. But as the time of my visit (May 16—22) was not that for collecting the drug, I have no details of particular novelty to communicate.

Respecting the manna-ash itself, however, I wish to say a few words. It has often been stated, as in the *British Pharmacopœia* (for which in this case I presume the *Prodromus* of De Candolle is the authority), that there are two species of manna-ash, namely, *Fraxinus Ornus* and *F. rotundifolia*. Many modern writers on pharmacology admit but a single species, *F. Ornus*, L., of which *F. rotundifolia* is stated to be a cultivated variety peculiar to Calabria and Sicily, and propagated by grafting.

I do not think either statement satisfactory. *F. Ornus* is very variable even in its wild state, and in the same locality.‡ As to the tree which is cultivated in Sicily, and of which I have examined spe-

* They were contributed by Signor Giovanni Morelli of Rogliano, Calabria.

† A most interesting agricultural college, founded by private munificence, where twenty-two lads are studying scientific and practical husbandry under the able directorship of Professor Inzenga.

‡ As for instance at Eza near Nice where the tree is plentiful, and where I have gathered specimens with the leaflets almost orbicular, and others with leaflets narrowly lanceolate.

cimens from all parts of the island,* it likewise presents great variations, but no special form that can be singled out as deserving the name of *rotundifolia*, or even that can be recognized as *par excellence* a cultivated variety. It is true that the tree in some manna plantations is occasionally grafted; certain trees yielding a poor supply of saccharine matter being thus replaced by others of a more productive nature. But I observed no grafting at Capaci where the trees are grown like coppice-oak in England, and where such a plan of treatment would therefore be hardly worth the trouble.

[The paper was illustrated by several samples of Calabrian manna procured at Rossano, Corigliano and Cosenza, and by a large suite of botanical specimens of *Fraxinus Ornus*, L., and a stem of the latter showing the incisions for manna.]

SPIRIT OF NITROUS ETHER A SUPPOSED TEST FOR SOME ALKALOIDS.

By JOHN M. MAISCH.

About a year ago a friend wrote to me that he had observed some reactions of quinia and cinchonia, which might perhaps be valuable for the detection of these and other alkaloids. The reaction was described as follows:

"Quinia or cinchonia, to which some sweet spirit of nitre and a few drops of ammonia is added, produces with a little muriated tincture of iron a red color similar to that formed with sulphocyanide of potassium and iron. Morphia treated in the same way produces a beautiful green color. Most of the other alkaloids are not affected."

On repeating the experiments with commercial spirit of nitrous ether, which had been exposed to the atmosphere for a considerable time, a quinia solution assumed the red color described, but morphia solution became purple instead of green. On the addition of a few drops of muriatic acid, the red quinia solution became colorless, while the morphia solution assumed a blue color, the characteristic reaction of morphia and ferric chloride, and turned green on the further addition of tincture of iron, as might have been expected from mixing a yellow and blue liquid which do not chemically react upon each other.

* Many of them courteously presented to me by Professor Todaro, of the Botanical Garden, Palermo.

This observation at once suggested the probability that the spirit used for these experiments contained acetic acid, which was proven by the deep red color produced with it after neutralization with ammonia, by a ferric salt, the color disappearing on the addition of acids. Spirit of nitrous ether, however, which had been recently prepared by Redwood's process, was entirely free from acetic acid and did not produce the red color with salts of iron.

It is well known that by the action of nitric acid upon alcohol, nitrous, acetic and formic ethers are formed, in variable proportions, depending chiefly on the strength of the materials employed, and on the temperature at which the distillation took place. The two last-named ethers do not affect the color of ferric chloride until by exposure or by the action of caustic alkalies acetic and formic acids have been liberated from their ethylic combination, when, after neutralization, the peculiar red color will appear with ferric chloride, more or less modified by the smaller or larger excess of the iron salt, or by the presence of a compound striking with it a peculiar color.

Old spirit of nitrous ether contains also free nitrous or nitric acid, as may be seen by the blackish-brown color produced with ferrous salts on the addition of hydrochloric or sulphuric acid.

OINTMENTS OF OXIDE OF ZINC, AND OF MERCURY.

By JULIUS KALISH.

UNGT. ZINCI OXIDI.—In the last number of the "American Journal of Pharmacy," a process is given by Mr. Bolton, which, while it will give a very smooth ointment, is too expensive, requiring too much time and labor in its execution. It consists essentially of grinding the oxide in the fat.

I have prepared this ointment in the following way, which accomplishes the same results by far less labor, the great desideratum in all formulas :

Rub the zinc oxide in a wedgwood or unglazed porcelain mortar, with *considerable pressure*, until as finely divided as possible; now add gradually, *with constant trituration and pressure*, sufficient sweet oil of almonds to form a smooth paste; then add a little lard, mix thoroughly; then add balance.

This process will answer for all ointments containing insoluble substances, and for all ordinary quantities. I have always succeeded with it in making smooth, uniform ointments.

While on the subject of ointments, I will say a few words about

UNGT. HYDRARG. OXIDI RUBRI.—Every pharmacist has heard, with dismay, on some very busy day, a call for ten cents' worth of this *bête noir*. A short time ago I saw in one of our journals the following formula:

R. Olei Ricini,	3vj,
Ceræ albæ,	3ij,
Hydrarg. Oxidi Rubri,	5j.
M. ft. ungt. l. a.	

This makes an ointment of good consistency, and keeps. I have some, made six months ago, which shows no signs of change, being as bright as when first made. But it has the objection, when freshly prepared, of having, in a considerable degree, the unpleasant odor of castor oil, although this is partially lost in time; but, what is more objectionable, it has the irritating properties of the oil when applied to delicate parts, as the eyelids. To obviate this I substituted olive oil for the castor oil, but not with satisfactory results; still I am not able to state positively that olive oil, entirely free from rancidity, will deoxidize the mercury, as I have some doubts about the oil I used. I then tried sweet oil of almonds; with this I have an ointment, made ten weeks ago, which has as yet shown no signs of change. I had previously tried lard, purified by different methods, also adding a few drops liq. potassæ, as remarked in the U. S. Dispensatory; but in each case there was a reduction of the oxide.

New York, Jan. 16, 1873.

NOTE.—Ointment of oxide of mercury, made with yellow wax as directed by the new Pharmacopœia, will keep unaltered for several weeks.—ED. AM. JOURN. PHARM.

GLEANINGS FROM THE EUROPEAN JOURNALS.

BY THE EDITOR.

Resin of guaiacum and its constituents have been studied by E. Schær with the view of ascertaining which principle has the property of striking the well known blue coloration with oxidizing agents. The action of simple solvents upon the crude resin cannot clear up this question, since some constituents, though insoluble in a simple

solvent when chemically pure, are dissolved to a greater or smaller extent through the influence of other constituents. His observations lead him to the conclusion that this principle is guaiaconic acid, which is present in the crude resin to the amount of about 70 per cent., while guaiaresinic acid, of which the resin contains 10 per cent., is not colored by oxidizing agents. The blue color produced with pure guaiaconic acid is of longer duration if the oxidizing agents, after parting with oxygen, yield bases or indifferent compounds, like permanganic and ferric acids, the peroxides of lead, manganium, silver, &c.; and it is readily changing, if the oxidizing agents produce acids, as for instance chlorine, bromine, iodine, ferric and auric chlorides, &c. A molecular change in the constitution of this acid is produced by light, particularly by the direct sunlight, even if oxygen is carefully excluded, so that it loses its property of turning blue with oxidizers. This shows the importance of carefully preserving a solution of guaiac resin, to be used as reagent, from the influence of light and air. The resin prepared from the wood by alcohol under exclusion of light and air is more sensitive, and yields a blue color of greater intensity and purity than the commercial resin. The green coloration assumed by the wood and resin on exposure is due to the presence of yellow coloring matter in addition to guaiaconic acid.—*Wittstein's Viert. Schr.*, 1873, 68-74, from *Schweiz. Wochenschr.*

Phosphorescence of orris root.—X. Landerer has observed this phenomenon repeatedly on digging at night the rhizome of *Iris florentina*; it occurred in the form of luminous spots.—*Ibid.*, 76.

Iodal $C_4H_5O_2$, discovered by Aimé more than 30 years ago, which is obtained by acting upon iodine with a mixture of absolute alcohol and concentrated nitric acid, is recommended by Guyot as an excellent anæsthetic, in doses of one to two and a half grams. It is a colorless oily liquid, resembling chloral in odor; boils at $25^\circ C.$, and is decomposed by alkalis into iodoform and formic acid.—*Ibid.*, 95, from *Journ. de Chim. Méd.*

Desiccation of egg albumen.—Stan. Martin recommends the following as the most expeditious method: in an airy room, well protected from dust, a square frame is placed upon two chairs or suspended by cord, and a piece of linen or muslin stretched over it, on which a layer of egg albumen is spread. When this is dry, a second, third

and even fourth layer is spread on, until scales several millimeters in thickness are obtained. In drying, the albumen detaches itself from the fabric, and to hasten the desiccation, the whole may be exposed to the sun under a cover of unglazed black material.—*Jour. de Pharm. et de Chim., Dec., 429.*

To hide the bitter taste of some medicines, like quinia, colocynth, aloes, quassia, &c., L'Union pharmaceutique, 1872, Dec., proposes to keep some liquorice in the mouth after taking such substances, when the bitter taste will instantly disappear.* Liquorice merely masks, it does not destroy the bitter taste; its action is analogous to that of bitter almonds upon musk, and of anise upon valerian. When musk is triturated with some distilled bitter almond water the musk odor disappears, but gradually reappears as the oil of bitter almonds evaporates.

A new falsification of ammoniac is reported by Ch. Ménière, who observed globular pieces of translucent quartz varying in color between white, yellow, orange and reddish, imbedded in the gum resin, so as to give it the appearance of a handsome article, and calculated to deceive unless closely inspected.—*Ibid., p. 355.*

Solubility of quinia salts in water and glycerin.—Schlagdenhauffen has instituted a series of experiments on this subject, with the view of obtaining a solution sufficiently concentrated for subcutaneous injection; one part of some salts requires for solution at the temperature stated, the following parts of

Degrees. C.	Distilled water.						Glycerin.					
	100	50	40	15	12	0	100	65	40	35	10	0
Sulphate,	25	120	—	—	—	300	4	10	20	—	—	40
Hydrochlorate,	4	—	—	—	22	24	2 to 3 parts.					
Butyrate,	13	—	55	105	—	130	4	—	—	7	15	17

Some of the glycerin solutions when rapidly cooled to 0° C., remain clear for a longer time than by slow cooling to 15° C.; this supersaturation affords a means for using the solutions hypodermically. When cooled slowly to 15° C., glycerin solutions containing

* Liquorice has been long in use for masking the bitter and also the nauseous saline taste of certain medicines.—EDITOR AMER. JOUR. PHARM.

8 per cent. of sulphate of quinia may be employed for 1 day.						
25	"	"	hyposulphite	"	"	4 days.
33	"	"	hydrochlorate	"	"	16 hours.
50	"	"	formiate	"	"	8 "
25	"	"	acetate	"	"	10 "
50	"	"	sulphovinate	"	"	19 "
50	"	"	lactate	"	"	1 day.
33	"	"	tannate	"	"	3 days.

If these solutions are kept at a temperature of 30° C. they remain limped for 8 to 15 days.—*Ibid.*, 359-364.

To detect an admixture of alcohol in volatile oils, R. Böttger recommends to agitate the suspected volatile oil in a graduated tube, with an equal bulk of pure glycerin, spec. gravity 1.25, which is readily soluble in alcohol, but does not combine with the volatile oil. The diminution in volume of the latter indicates the amount of the admixture.—*Chem. Centr. Bl.*, 1872, No. 47, from *Jahresb. d. phys. Ver. zu Frankfurt*.

Constituents of sweet almonds.—Professor Ludwig communicates the results of an investigation made in the laboratory at Jena by E. Scheitz, in 1865, who found besides fixed oil, albuminous compounds, emulsin and cellulose, also glucose, a chromogen glucoside (yellow, becoming cherry red with alkalies), small quantities of amygdalin and tannin which reacts green with iron and is doubtless contained in the outer integuments.—*Archiv d. Pharm.*, 1872, Nov., 420-423.

Estimation of camphor in alcoholic liquids.—Hager distils the liquid in a water-bath, the distilled alcohol containing the greater part of the camphor, is mixed with an equal volume of water and agitated with one-tenth volume of bisulphide of carbon. After separation, a portion of the hydroalcoholic liquid is returned to the flask and redistilled from a glycerin bath at 110° C. The distillate contains all the camphor, is added to remaining mixture and bisulphide of carbon, mixed with more water and twice agitated with carbon bisulphide. The latter solvent has taken up all the camphor and volatile oils if present. This solution is evaporated spontaneously in a tared glass dish with straight sides at an atmospheric temperature not exceeding 15° C., the temperature of the dish being lowered by the evaporation to 5 to 10°, preventing the evaporation of the camphor almost com-

pletely, while the volatile oils evaporate freely. Should a larger quantity of volatile oils be present, the residue must be again treated with carbon bisulphide in the same manner, until a solid residue is left, when it is immediately weighed. In the presence of oil of lavender, and particularly of rosemary, the camphor is obtained in prisms.—*Pharm. Centr. Halle*, 1872, No. 50.

Indelible writing ink is obtained by adding to ordinary ink some ferrocyanide of potassium. The use of acids for removing the ink, causes the formation of Prussian blue.—*Pharm. Zeitung*, 1872, No. 104.

ON A NEW ANÆSTHETIC OBTAINED FROM CHLORIDE OF CARBON.*

By MM. HARDY AND DUMONTPALIER.

Chloride of carbon unites in definite proportions with alcohol, and furnishes a liquid which boils at a fixed temperature, and possesses strong anæsthetic properties. To obtain it, 30.8 parts of chloride of carbon are mixed with 4.6 parts of alcohol, the mixture distilled, and the portion collected which boils at 66° C.

It is a colorless, transparent, mobile liquid, of an agreeable odor, and a density of 1.44 at 13° C. and at a pressure of 0.755. Its boiling point, 66° C., is below that of both its constituents, chloride of carbon boiling at 77° and alcohol at 78.5°. It is unalterable in the air, volatilizes slowly and burns with difficulty, the flame having a green margin. It is decomposed by water, sulphuric and hydrochloric acids, chloride of carbon being deposited. Aided by a moderate heat, nitric acid attacks it briskly, with the disengagement of red fumes and the separation of chloride of carbon, while the supernatant liquid yields oxalic acid.

Analysis leads to the formula $2\text{CCl}_4, \text{C}_2\text{H}_6\text{O}$. Its density, however, which in two experiments was found to be 4.2 and 4.1, does not correspond with the theoretical density required by this formula. Whether it be regarded as a compound, or as a mixture, it is curious that it has a fixed boiling point, and all the physical appearances of a body of definite composition. Other analogous cases are known which have not yet been interpreted.

It acts as an anæsthetic, for which purpose its ethereal odor and

* Translated from *Journal de Pharmacie et de Chimie*, 1872, Dec.

its low boiling point render its application easy. Experiments were made with a dog of medium size; the mouth was kept closed, the inhalation took place from a sponge through the nostrils so that a certain quantity of air was likewise allowed to enter; 15 grms., in three portions, were sufficient. Comparative experiments, made upon the same dog, in intervals of several days, with chloride of carbon and with chloroform, in uniform doses of 15 grams, lead the authors to the conclusion that the last two liquids act with greater intensity than the new substance, which, however, should be used with the greatest care in experimenting upon human subjects.—*Bull. Therap.*

DISPENSING NOTE ON CHLORAL HYDRATE.*

By J. G. PLUMER.

There have been many suggestions put forward respecting the dispensing and dose of chloral hydrate. It was first, I believe, introduced on the Continent, and has been given there in doses consisting of only five grains, principally combined with simple syrup and distilled water. But in England it is given in doses ranging from five to fifteen or twenty grains, either in the form of draught, syrup or mixture. It is generally prescribed in the form of a syrup; tolu and other flavoring adjuncts being employed to disguise the taste. In my opinion the *Syrupus Flor. Aurantii, P.B.*, is the best form of combination with which it can be used. It seems most effectually to avoid the sickly feeling created by the chloral hydrate; I venture to suggest the employment of a concentrated solution which may prove convenient. I find that one fluid drachm of solution made with distilled water may contain so large a quantity as one drachm by weight of the chloral hydrate. I therefore use this formula:—

R.

Chloral. Hydrat. ʒ j.

Aquæ destillat. q. s. ad fl. ʒ j.

About five drachms of aqua destillata are found necessary, and the result is satisfactory. Hence in a prescription ordering ʒ ij chloral hydrate, two drachms of the concentrated solution will be wanted. The convenient applications of this liquor will be obvious. Syrup of chloral hydrate in any combination may be instantaneously prepared.

* Read at the Evening Meeting of the Pharmaceutical Society of Great Britain, December 4, 1872.

Thus:—

R.

Liq. Chloral Hydrat.	℥ 80.
Syrup. Flor. Aurant.	3 iv.
Syrup. Simplicis	3 iv.

The resulting syrup will contain ten grains of chloral hydrate to the drachm. Should a colored syrup be desired, as is frequently the case, then the following formula may be substituted:—

R.

Syrup. Rhœados	3 ss.
Liq. Chloral. Hydrat.	℥ 80.
Syrup. Flor. Aurant.	ad 3 j.

Or,

Liq. Chloral. Hydrat.	℥ 80.
Tinct. Cocci.	℥ ij.
Syrup. Flor. Aurant.	ad 3 j.

An anodyne draught of any requisite strength may be expeditiously prepared; and the solution has this advantage, that although in so highly concentrated a state, it will keep without decomposition any reasonable amount of time.—*Lond. Pharm. Journ. and Trans.*, Dec. 7, 1872.

THE DECOMPOSITION OF HYDRATE OF CHLORAL.*

By M. BYASSON.

Former investigations of the author have led him to the conclusion that the physiological action of hydrate of chloral is not the same as that of chloroform introduced slowly into the system, but that it is the joint result of the chloroform and the formic acid produced under the influence of the alkalinity of the blood.† He has also shown that sulphuretted hydrogen combines with anhydrous chloral to form a sulphhydrate analogous to the hydrate, and like it having soporific properties.‡

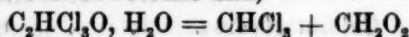
In the decomposition of oxalic acid by glycerin, M. Byasson, by replacing the water by alcohol, has etherified directly the formic acid, and thus obtained formic ether by a new process. He was also in-

* Abstracted from "Comptes Rendus," vol. lxxv, p. 1628.

† *Pharm. Journ.* [3] II, p. 484. *Amer. Jour. Pharm.*, 1872, p. 34.

‡ *Ibid.*, p. 1045. *Ibid.*, 1872, p. 357.

duced to experiment whether hydrate of chloral, which contains the elements of chloroform and formic acid,



could be decomposed into those two bodies without the intervention of alkalis. The following experiment, repeated several times, always yielded concordant results:—If hydrate of chloral be dissolved in five times its weight of syrupy glycerin, and the mixture heated in a retort furnished with a receiver, at about 110°C. , a regular action is established which continues up to about 230° ; at this temperature the glycerin is strongly colored, and becomes thick, and it is advisable to stop the operation so as not to complicate the results. The product condensed in the receiver is liquid, and separates into two layers; the underneath layer consists of chloroform, the upper one contains formic acid, hydrochloric acid, formate of allyl, and hydrate of chloral dissolved in water. The proportion of chloroform produced as the mean of three operations, was 31 per cent. of the hydrate of chloral. The formation of the formate of allyl is secondary, as also that of the hydrochloric acid. These two bodies are relatively in small quantity, and proceed, the first from the decomposition of glycerin under the influence of heat and nascent formic acid; the second from the decomposition of chloroform. In order to obtain the above results it is important to use syrupy glycerin; if water be added, the greater part of the hydrate of chloral distils over without being decomposed.—*Lond. Pharm. Journ. and Trans., Jan. 4, 1873.*

ON THE PHYSIOLOGICAL AND THERAPEUTICAL PROPERTIES OF THE DIFFERENT IMMEDIATE PRINCIPLES OF OPIUM.

BY DR. RABUTEAU.

In a long and interesting series of researches Dr. Rabuteau has extended the investigations of Claude Bernard upon the physiological and therapeutical properties of the constituents of opium. Dr. Rabuteau has examined these properties, not only as they affect the lower animals, but also the human subject, and he has, moreover, considered the alkaloids of opium in relation to their *anodyne* and *anexosmotic* effects. [By the word *anexosmotic* Dr. Rabuteau indicates the property of preventing the flow of liquid through the intestinal walls into the intestinal canal.—REPORTER.] He has specially examined these two effects, because opium is very frequently employed to allay pain and to arrest diarrhoea; and he has not only examined the pro-

perties of the alkaloids of opium, but also those of the other constituents, such as meconic acid, meconin, etc. It is already well known that the activity of the immediate principles of opium is not the same in each; but Dr. Rabuteau shows, besides, a fact which was not previously known, namely, that the order of activity of these same principles is not the same in man and in the lower animals. He also demonstrates, by the evidence afforded by his own experiments as well as by those of his predecessors, the principles of opium which cause sleep in the human subject, those which allay pain, those which arrest diarrhoea, and, lastly, those which act upon the system in a more energetic and dangerous manner when given in large doses. The principles which have been discovered in opium, and the order in which they are described by Dr. Rabuteau, are as follows:—*Basic principles*.—Thebaina, papaverina, narcotina, codeia, narceina, morphia, opiania, porphyroxin, pseudo-morphia. *Other principles*.—Meconic acid, meconin, water, caoutchouc, resin, fatty matter, gum, mucilage and extractive matters.

The following are among the more important results of Dr. Rabuteau's researches on these substances:—*Thebaina* produces, in the lower animals, violent convulsions, similar to those caused by strychnia, but in man it is far less poisonous than the latter alkaloid. In order to ascertain the *anexosmotic* properties of this and other principles, Dr. Rabuteau drew out from an aperture made in the abdominal walls of certain animals a knuckle of intestine, into which, after tying it, a solution of sulphate of soda was introduced, and then the intestine, tied at both ends, was returned into the abdomen, the animal having previously had a solution of the thebaina injected under the skin. In the case of this alkaloid the portion of intestine was examined after the death of the animal, and was found to contain a large quantity of fluid. Thebaina, therefore, does not counteract the effect of purgatives, or, in other words, is not *anexosmotic*, and, consequently, is not an opiate preparation which produces constipation, or arrests diarrhoea. Dr. Rabuteau thus summarises the properties of thebaina:—It produces convulsions, and is poisonous in the lower animals; but is less active than strychnia; it is not very poisonous in man; it does not prevent the *exosmotic* currents of the intestine; it is not soporific, but it increases the *anæsthetic* effect of chloroform; and it is *anodyne*.

As it is impossible, from want of space, to specify the researches

made by Dr. Rabuteau on each constituent of opium, we can only give his results, which are chiefly as follows:—*Papaverina* is much less active than thebaina, and produces hardly any effect when administered in moderate doses to the lower animals, but in large doses it produces convulsions in frogs. In the case of the human subject it possesses but little activity in rather large doses, as, for instance, twenty centigrammes ($\frac{20}{100}$ of a gramme, about fifteen grains being about equivalent to a gramme); but in larger doses it is poisonous, and causes convulsions; it does not arrest diarrhoea, or, in other words, it is not anexosmotic; it is not soporific, but it assists the anæsthetic action of chloroform. *Narcotina*.—With regard to this principle, Dr. Rabuteau confirms the results of previous observers as to its negative characters. *Codeia* is more poisonous to man than thebaina, but, on the other hand, according to the experiments of Claude Bernard and Dr. Rabuteau, thebaina is the more poisonous to the lower animals. *Codeia* is dangerous to man in large doses, it is very slightly soporific, very slightly anodyne, and is not anexosmotic, and, therefore, is useless in the practice of medicine. *Narceina*, according to Claude Bernard, is the most soporific of the bases of opium, and is less poisonous than thebaina, codeia and papaverina; but Dr. Rabuteau, from his more recent researches, thinks that although narceina is more soporific in dogs than morphia, yet that in the human subject morphia is superior in this respect. *Narceina* augments the action of chloroform, and it is anodyne and anexosmotic. *Morphia* is the most poisonous and the most soporific of the principles of opium in man, but it is also the most anexosmotic, as has been proved by experiments similar to those related in connection with the properties of thebaina. It is also anodyne, as is well known, but it presents this inconvenience, that it deranges the system by causing loss of appetite, nausea and vomiting. The other principles of opium are of so little importance in medical practice that it is unnecessary to refer to them in detail.

Dr. Rabuteau concludes his paper with some observations on the simultaneous action of chloroform and the alkaloids of opium. It has been found that the lower animals were much less sensible to pain when they were subjected to the influence of chloroform and also the opiate preparations; thus, in cases where both agents were administered, the insensibility to pain remained, even when the chloroform was no longer administered, and yet the animals did not sleep. The

alkaloids of opium, therefore, generally continue the anodyne action of chloroform, although they are not at all soporific, but they almost all possess the property of diminishing sensibility. Claude Bernard and Nussbaum have found that when an opiate subcutaneous injection was performed in certain cases of operation on the human subject, and chloroform was subsequently given, the patient did not awake as usual, but continued to sleep, and during this sleep there was insensibility to punctures, incisions, and even the actual cautery. Dr. Rabuteau, therefore, thinks that insensibility might be obtained with greater certainty and safety by the combined administration of a solution of chloroform and an opiate, than by giving either agent alone.—*Amer. Journ. of Med. Sciences*, Jan., 1873; *Brit. and For. Med.-Chir. Rev.*, Oct., 1872, from *Gazette Hebdomadaire*, April and May, 1872.

RESEARCHES ON THE POLYMERIDES OF MORPHIA AND THEIR DERIVATIVES.

By E. LUDWIG MAYER and C. R. A. WRIGHT, D. Sc.

Before the London Chemical Society a memoir of the above title was read by Dr. Wright, and illustrated with specimens of many of the substances mentioned. The memoir consisted of several papers, the first being on the action of zinc chloride on morphia. At low temperatures, and with concentrated solutions of the zinc salt, tetrapo-dimorphia (apomorphia) appears to be the principal product, but at higher temperatures and with the addition of strong hydrochloric acid a "tetra" polymeride of apo-morphia is formed, which may be called octapo-tetramorphia. The principal results enumerated in the second paper, "On the Action of Hydrochloric Acid on Morphia," are that besides apo-morphia mixtures of three bases are produced which may be written $M+3HCl$, $M+3HCl-H_2O$ and $M4HCl-2H_2O$, where M stands for morphia, $C_{34}H_{38}N_2O_6$. The action of sulphuric acid on morphia appears generally to yield polymerides without abstraction of water, the principal products being the sulphates of trimorphia, $C_{102}H_{114}N_6O_{18}$, and tetra-morphia $C_{136}H_{152}N_8O_{24}$. The authors also describe the results of the action of hydrochloric acid on trimorphia and tetra-morphia and state the physiological action of the various bases, concluding with a table of the names, formulæ, &c., of no less than nineteen derivatives of morphia.

The CHAIRMAN in thanking the authors for laying before them the

results of their elaborate researches, alluded to the wide field which they embraced, offering various interesting points for discussion.

Mr. PROSJEAN remarked that the subject was certainly a large one; and already sufficiently bewildering, so that he must protest against the use of some of the names which the authors had employed, more especially the introduction of prepositions into them. Some of the old names were certainly unwieldy enough, but he preferred them to such terms as apomorphia, in which there was nothing to signify that it was derived from morphia by the abstraction of water. It might equally mean that anything else was taken away.

Dr. WRIGHT replied that the title was first employed by the late Dr. Matthiessen to signify that the substance was a derivative from morphia, and that it had now become a conventional term to signify the abstraction of water, and was certainly less a misnomer than such names as oxygen.

Mr. VERNON HARCOURT certainly thought that there was no reason for the introduction of prepositions into chemical names without any consideration of the fitness of the term. The prefix "apo" certainly gave no indication that the substance was a derivative formed by the abstraction of water.—*Chem. News, Lond., Dec. 27, 1872.*

THE EXTRACTS CONTAINING CHLOROPHYLL.*

By J. B. BARNES.

In the last London Pharmacopœia it is directed that the extracts of aconite, belladonna, hemlock, henbane, and lettuce, are to be prepared by evaporating the juice of the leaves unstrained to a proper consistence.

The British Pharmacopœia directs the juice to be heated to 130° F. "Separate the green coloring matter upon a calico filter; heat the strained liquor to 200° F. to coagulate the albumen, and again filter; evaporate the filtrate by means of a water-bath to the consistence of thin syrup; and then add to it the green coloring matter previously separated, and stirring the whole together assiduously, continue the evaporation at a temperature not exceeding 140° F., until the extract is of a proper consistence."

* Read at the Evening Meeting of the Pharmaceutical Society of Great Britain, December 4, 1872.

This is an improvement upon the old method, for the presence of the albumen not unfrequently set up fermentation, nitrous acid was evolved, and nitrites and nitrates formed in the extracts, probably at the expense of the active principles.

With the view of ascertaining if any further improvement can be effected in these preparations, I have made a series of weighings of the insoluble coloring matter contained in different samples of these extracts, obtained from some of the principal pharmaceutical establishments in London. The results are as follows :—

EXTRACT OF ACONITE.

Samples.	Quantity employed.	Amount of Chlorophyll obtained.
No. 1 . .	100 grains . .	1.5 grains.
No. 2 . .	100 grains . .	4 grains.
No. 3 . .	100 grains . .	4 grains.

No. 1 was of the consistence of thick treacle, the filtration went on rapidly and satisfactorily, but Nos. 2 and 3 took some days to filter, and it was found that when warm water was employed in washing out the extract, the filtrate on cooling became turbid; consequently weighings were made of the insoluble matter which had been washed with cold distilled water; they were both firm enough to roll into pills.

EXTRACT OF BELLADONNA.

Samples.	Quantity employed.	Amount of Chlorophyll obtained.
No. 1 . .	100 grains . .	14 grains.
No. 2 . .	100 grains . .	17 grains.
No. 3 . .	100 grains . .	18 grains.
No. 4 . .	100 grains . .	15.5 grains.

All these were good firm extracts.

EXTRACT OF HEMLOCK.

Samples.	Quantity employed.	Amount of Chlorophyll obtained.
No. 1 . .	100 grains . .	14 grains.
No. 2 . .	100 grains . .	9 grains.
No. 3 . .	100 grains . .	16 grains.
No. 4 . .	100 grains . .	15 grains.
No. 5 . .	100 grains . .	8 grains.

Nos. 1, 2, 3, and 4, were tolerably firm, but No. 5 was unusually soft.

EXTRACT OF HENBANE.

Samples.	Quantity employed.	Amount of Chlorophyll obtained.
No. 1 . . .	100 grains . . .	16 grains.
No. 2 . . .	100 grains . . .	11.5 grains.
No. 3 . . .	100 grains . . .	18.5 grains.
No. 4 . . .	100 grains . . .	14 grains.

The consistence of the samples was good.

EXTRACT OF WILD LETTUCE.

Samples.	Quantity employed.	Amount of Chlorophyll obtained.
No. 1 . . .	100 grains . . .	13 grains.
No. 2 . . .	100 grains . . .	1 grain.
No. 3 . . .	100 grains . . .	1 grain.
No. 4 . . .	100 grains . . .	9.5 grains.

Nos. 1 and 4 were tolerably firm, but Nos. 2 and 3 were of the consistence of thick treacle.

In these experiments, excepting Nos. 2 and 3 of extract of aconite, the coloring matter was separated by dissolving the extracts in hot distilled water; transferred to tared filters, they were washed with warm distilled water until the latter passed through colorless; the chlorophyll was then dried in an air bath at 100 C., until the weight became constant. The insoluble matter in some samples of extracts of aconite and lettuce was very small, amounting to only one and one and a half per cent., and in extract of lettuce was not green but brown; whether this change is due to age or not I am unable to say.

From these varying results it is clear that extracts containing the coloring matter are not of anything like uniform strength; so much so is it the case that I venture to bring the subject before the Society in the hope that discussion will elicit opinion as to the desirability or otherwise of eliminating this cause of varying strength in preparations, which it is so very desirable should be of constant and unvarying strength.

Dr. Harley* has shown how valueless the extract of hemlock of the Pharmacopœia is, and the value he attaches to the preserved juice. It is evident from his experiments that the prolonged application of heat employed to evaporate the juice to the consistence of an extract, dissipates so much of the active principle, conia, that very little of it

* "On the Preparation of Extract of Conium of the British Pharmacopœia, 1864 and 1867," PHARM. JOURN., Vol. VIII, 1866-67. Amer. Journ. Pharm., 1867, 266, &c.

remains in the extract. It is not improbable that some loss of alkaloid takes place in the preparation of extract of henbane; and it is most desirable that after coagulating and separating the albumen, the evaporation should be carried on at the lowest temperature possible. As far as my experience goes I think that a temperature not exceeding 120° F. should be used, and that the evaporation of the juice should be effected in shallow evaporating pans exposed to a current of dry air, until the proper consistence is obtained.

It is undoubtedly established that the action of aconitia, atropia, and conia are identical with the medicinal properties of the plants from which they are extracted; and it is not improbable that hyoscyamia will be found to possess the properties of henbane in the highest degree.

The objections which I anticipate will be offered to any alteration in the preparation of these substances, is the absence of the accustomed color, the increased strength, and possibly the greater deliquescence.

My answer to the first objection is that in the case of these so-called green extracts, it is not so very easy to distinguish between one and another, as exemplified by the answers of the candidates who come up for examination in pharmacy. I venture to state that it will not be more difficult to distinguish these proposed *purified extracts* than it is with those already in use, for, although the color will be different, their characteristic odors will be retained.

To the next objection, that of increased strength, any inconvenience which might arise from that source will be more than counterbalanced by the very important consideration of uniformity of strength of these preparations; and in order to facilitate the use of these *pure extracts* I might be allowed to suggest their employment in the form of *liquid extracts*; hemlock, however, should be excluded on account of the volatile nature of its alkaloid.

In order to prepare these fluid extracts, it will be necessary to continue the evaporation until reduced to dryness, before they are converted into the fluid state, and of course the addition of about a fourth part of rectified spirit will be required to preserve them. I have not made any of these solutions, therefore am not prepared to say of what strength they should be made.

They would be more definite in strength than their corresponding tinctures, they would cost less, and the ease with which they could be

prepared would, I am sure, be a boon to the pharmacist as well as to the medical man.

The increased tendency of these extracts to deliquesce can be met by making them firmer than those in use at present, and by keeping them in pots better secured than those commonly used. For the dispensing counter, strong glass jars with ground-glass lids, would be found to answer well; and when made into pills, the apt dispenser will not be at a loss to protect them from the action of the air.—*Lon. Pharm. Journ. and Trans.*, Dec. 7, 1872.

First Annual Report of the Pharmaceutical Examining Board of Philadelphia.

PHILADELPHIA, January 1, 1873.

To His Honor, WM. S. STOKLEY, Mayor of Philadelphia.

The Pharmaceutical Examining Board respectfully report, that the members appointed by your Honor in April last, in accordance with the "Act to regulate the practice of pharmacy, etc.," approved April 4th, 1872, on being duly qualified by the Clerk of the Court of Quarter Sessions, met on the 29th of April, and organized by the election of James N. Marks as President, Chas. L. Eberle, Treasurer, and James T. Shinn, Secretary.

Rules and by-laws were adopted, and, as soon as the necessary books and papers could be prepared, an advertisement was inserted in nine of the newspapers of the city.

An office was rented and opened at No. 723 Arch street on May 20th, when the Board met daily until after the expiration of the time fixed by law for the registration of apothecaries and retail druggists who were proprietors of stores on April 4th, 1872.

During the year fifty meetings have been held for the transaction of business, and 504 applicants for registration as proprietors received, of which number 492 were approved and certificates ordered to be issued. There have been 287 applications from clerks, of whom 250 appeared for examination as to competency and qualification. Certificates as "Qualified Assistant" were granted to 185 of the applicants, and 65 were rejected as incompetent to be left in charge of a store. Since the passage of the act 10 persons not graduates in pharmacy who wished to open retail drug-stores have been examined by the Board, five of whom received the necessary certificate of competency, and five were rejected as not possessing the requisite knowledge and qualifications.

This record shows that of the number applying for the responsible position of proprietor of a store, where the most deadly poisons were to be dispensed, fifty per cent. were judged by the Board to be unfit for it, and that only seventy-four per cent. of those who were to be left in charge during the absence of the proprietor were deemed competent for the post. At this date twenty-five proprietors and thirty qualified assistants have not called for or obtained their certificates, although duly notified to do so.

The receipts from fees have barely been sufficient to meet the expenses, and the Board regrets the inadequacy of the law to provide the means for prosecuting those who violate it. No cases of fraudulent adulteration of medicines have been reported, but the sale of medicines has been continued in some localities by grocers, and copies of the law have been sent to all the retail grocers whose names appear in the business directory, to call their attention to the provisions restricting the sale of poisons and medicinal preparations to registered pharmacists.

The act was framed for the protection of the public from the dangers incident to the dispensing of medicines by inexperienced and incompetent persons, and, although bearing heavily on some apothecaries, if its provisions are faithfully observed, it will, undoubtedly, in time, confine responsible business to properly educated pharmacists, and materially lessen the risk of accident.

In September last the Board was called upon to mourn the loss by death of its esteemed member, Edward Parrish, whose talents and acquirements in his profession made him a most efficient officer, and whose generous impulses and genial manners endeared him as a personal friend to his fellow-members.

Although the duties devolving upon the Board have been exceedingly onerous, they have been cheerfully and impartially performed, under the conviction that they were for the benefit of the citizens of Philadelphia; and we would invoke the strong support of an approving public opinion, and the cordial co-operation of yourself and the officers of the law.

JAMES N. MARKS,
ROBERT ENGLAND,

CHARLES L. EBERLE,
H. B. LIPPINCOTT,
JAMES T. SHINN.

Minutes of the Pharmaceutical Meetings.

A pharmaceutical meeting was held January 21st, 1873, William McIntyre in the chair.

The minutes of the last meeting were read and approved, without alteration.

The Chairman introduced to the meeting Dr. Charles H. Thomas.

Mr. Remington presented samples of some of the fluid extracts made according to the new Pharmacopœia; he had been over nearly all of them, and desired to give his experience with them for the benefit of others. He found in several cases that the quantity of menstruum received for moistening the powder was insufficient for this purpose. He commented on several of the individual extracts. Rhubarb, of which a sample was presented, was beautiful, and left nothing to be desired, having the characteristic features of the root. Buchu was also of very superior quality, and altogether unexceptional. Calumba, so very difficult to obtain clear, was spoken of, being almost always cloudy when diluted. Prof. Maisch suggested that the precipitate contains a considerable amount of berberina, and that the glycerin recommended in this fluid extract tends to prevent the precipitation.

In the case of colchicum seed, Mr. Remington did not think the menstruum strong enough to dissolve the essential oil which floats upon the preparation, and prefers the use of strong alcohol to take up the oil.

As a class, the preparations containing alcohol without glycerin were considered beautiful preparations and representing fully the medical properties of the drugs used.

The preparation of ergot was exhibited, and presented the characteristics fully, having the odor of the fresh ergot. His experiments with ipecac were not successful; there remained a considerable amount of undissolved resin which glycerin will not dissolve; the alcohol seems too weak to dissolve the resin, and the finished preparation contains one-half glycerin. Prof. Maisch had four or five samples perfectly clear, made substantially by the officinal process. These were made by himself, the heat carefully regulated, not above 140°; the powder should not be finer than 60°. In this preparation, the temperature is of great importance.

Mr. Remington said that the ipecac used by him was the strongest he had ever seen. The fluid extract of wild cherry was next discussed, as being made so entirely different from the process directed in the last Pharmacopœia, being percolated with water and stronger alcohol.

Professor Maisch made some general remarks about the fluid extracts in the Pharmacopœia, stating that the Committee endeavored to make these formulæ as simple as possible, that they might be understood by the student and those of little experience in the business. The processes were general ones, and were found to meet the requirements of the profession, based on the experience of those best acquainted with the subject. After moistening the drug with the amount of menstruum directed and adding the remainder, the soluble portion of the drug would be dissolved in a very concentrated form after the required time for maceration, and could then be driven out by the addition of an additional quantity of liquid. The fluid extract of wild cherry was in no wise intended to take the place of the syrup. Mr. Remington recommended particularly keeping the percolator closely covered, otherwise during the four days maceration, fissures would be formed in the drug, and the extract will be an imperfect one.

Mr. Remington exhibited a retort stand, modelled by Dr. Squibb, which is a very convenient appliance for the druggist, having conveniences for holding a lamp, funnels and various sized dishes, &c.

Mr. Boring had samples of cinnamon and cassia water, made from the oils by distillation, and by the ordinary process of dissolving the oil by the aid of carbonate of magnesia. The water prepared from Ceylon cinnamon by distillation seemed to be the most fragrant and most characteristic.

Prof. Maisch exhibited a sample of what was offered as cultivated dandelion root, which, upon examination, proved to be chicory.

Mr. A. P. Brown, of Camden, N. J., gave a formula, as follows, for preparing Goulard's cerate:

Benzoinated lard,	℥ viiiss.
Yellow wax,	℥ iiiiiss.
Solution subacetate lead,	℥ iiiiiss.
Camphor,	℥ ss.

Melt the wax and lard in a water-bath, add the solution subacetate of lead gradually, digest for fifteen minutes, stirring it constantly, remove the mixture from the bath, stir it till cool; lastly add the camphor. This preparation keeps for months, retaining its properties.

Prof. Maisch read a paper upon spiritus æther. nit. as a supposed test for some of the alkaloids, which was ordered for publication.

Prof. Maisch exhibited several varieties of fig plants grown in the neighborhood of Norfolk, Va., which embraced the white, brown, black and celestial fig. It is not known whether figs may be profitably raised in our Southern States on a large scale.

Several varieties of rhubarb were presented, and it was stated that in all varieties raised in Europe the red medullary rays ran from centre to circumference, while in the true rhubarb the rays are dispersed irregularly over the fractured surface. A specimen of true Russian root was exhibited, which came directly from St. Petersburg about three years ago.

The Professor also exhibited models for the illustration of botany. These were manufactured by R. Brendel, Breslau, Germany, and were beautiful in appearance, resembling as near as possible in color the natural objects. The models are made large enough to be seen by a class of students, and by coming apart exhibit the internal arrangements of portions of the plants, and the process of germination in the mono- and dicotyledonous plants. A section of rye was shown, and the manner of growth explained. A beautiful flax plant was shown, showing the structure of the flower, with the stamens and pistils distinctly visible; also models of various fruits, showing the seeds attached, and displaying the embryo. These specimens were made of materials of various kinds, most resembling the parts of the plant.

On motion then adjourned.

CLEMONS PARRISH, Registrar.

Pharmaceutical Colleges and Associations.

NEW YORK COLLEGE OF PHARMACY.—A conversational lecture was delivered January 9th, by Prof. W. De F. Day, on "the vegetable kingdom; its curiosities and uses."

MARYLAND COLLEGE OF PHARMACY.—At the monthly meeting, held December 12th, Mr. J. F. Hancock, in behalf of the Library Committee, reported on the additions to the library made by donations from several friends of the College, and by the purchase at a reasonable price of a complete set of the *Pharmaceutical Journal and Transactions* from 1841 to 1870. The College expressed thanks to the donors and to the gentlemen instrumental in procuring the books. The Committee hopes that with the plans already devised, the library will soon become useful and attractive. Attention was drawn to a large number of the *Maryland Journal of Pharmacy*, which are offered by the Committee at \$1 per year.

At the stated meeting, held January 19th, Mr. J. F. Hancock, Chairman of the Committee on Annual Meeting, reported progress, suggested March 13th as a good time for the meeting, and stated that Prof. I. J. Graham had consented to deliver the Annual Address. On motion, the Committee was vested with full power to make such arrangements as they might deem most expedient.

Mr. J. N. Potts, Chairman of Committee on Drug Exchange (appointed at

a previous meeting), submitted their report, which was accepted, and the Curator was instructed to have placed in the Hall a Bulletin Board, to facilitate in carrying out the recommendations of the Committee. The Treasurer submitted his semi-annual report, which was accepted and referred to an auditing committee. On motion, the Chair appointed Mr. J. F. Hancock to assist the Treasurer in revising the roll of members.

The semi-annual election of officers resulted in the election of Messrs. Joseph Roberts, 1st Vice-President; R. Sappington, 2d Vice-President, and F. Hasencamp and J. P. Frames members of the Board of Examiners.

At a special meeting of the Maryland College of Pharmacy, December 31st, 1872, the following communications were received from the Medical and Surgical Society of Baltimore:

BALTIMORE, NOV. 22, 1872.

To the President and Members of the Maryland College of Pharmacy:

GENTLEMEN:—Being Chairman of a Committee appointed by the Medical and Surgical Society of Baltimore, it is my duty to present to your honorable body the enclosed preamble and resolutions as adopted by the Society.

I would most respectfully submit them for your consideration, and would ask that a Committee of ten be appointed from your body to confer with us and similar committees from the other societies of the city.

Should the proposition meet with your approval, I hope our deliberations will be such as will settle the grievances complained of, and further promote the harmonious relations which should exist between the two professions.

Hoping to hear from you as soon as practicable,

I remain very respectfully, yours,

[Signed] JOHN A. CONNER, M.D.

210 E. Baltimore St.

The Committee appointed at the last meeting of the Medical and Surgical Society of Baltimore, to consider the relations existing between the physician and druggist, beg leave to report the following:

Whereas, We, the physicians of the City of Baltimore, have been grossly injured by the practice of druggists prescribing across the counter, and the indiscriminate renewal of prescriptions without the physician's order; and, *whereas*, we do not consider the course of study usually pursued by druggists as qualifying them for the practice of medicine; and, *whereas*, we consider such a course as extremely hazardous to the public and very unjust to the physician; and, *whereas*, we deem it proper that harmony should exist between the physician and druggist in order to further the interests of both parties, and at the same time to conduce to the welfare and safety of the patient; therefore be it

Resolved, By the Medical and Surgical Society of Baltimore, that a Committee of ten be appointed by this Society to lay our grievances before the Maryland College of Pharmacy, and request the appointment of a similar committee by that body, to devise means to do away with the acts complained of.

[Signed] T. B. EVANS, M.D., *Chairman*.

CONFERENCE OF PHYSICIANS AND PHARMACEUTISTS IN BALTIMORE.—The delegates appointed by the different medical societies of Baltimore, and by the Maryland College of Pharmacy, met at the hall of the College of Physicians and Surgeons, Tuesday, January 14th, and organized by electing Dr. J. A. Connor, Chairman, Dr. Thomas S. Latimer, Secretary of the Medical Committees, and Mr. J. F. Hancock, Secretary of the Pharmaceutical Committee. The Pathological Society had added another specification, making three charges, as follows:

1. Apothecaries prescribing across the counter.
2. Repeating prescriptions without the order of the prescribing physician.
3. Advertising patent medicines by show cards, bills, &c.

Prof. J. Faris Moore was the principal speaker for the pharmacists, and met the different charges ably and forcibly; in his argument he stated that the physicians were responsible for many of the existing irregularities, that he had a list of not less than seventeen nostrums, including trade deceptions, which were prescribed by leading physicians of Baltimore, from Winslow's Soothing Syrup to Hubbell's Elixir of Valerianate of Ammonia; and that the prescription business could not, therefore, be conducted without keeping quack nostrums. His remarks on the subject of popular elixirs, like a two-edged sword, cut on both sides.

After a long and friendly discussion, the following resolutions were adopted:

1st. *Resolved*, That, although it is perfectly admissible for druggists to sell any article for which customers may ask, whether orally or by prescription, yet it is highly objectionable for druggists to prescribe for customers under any circumstances except to meet an emergency.

2d. *Resolved*, That, with the permission of the Societies we represent, this Committee of Conference shall solicit the passage of a law by our State Legislature looking to the regulation of the sale of poisons in this State.

3d. *Resolved*, That the display by druggists of signs calling attention to the sale of patent medicines be considered disreputable.

The Conference, which is to meet again on the first Tuesday of February, is expected to be productive of much good, and to lead to a better understanding between the honorable members of both professions.

CINCINNATI COLLEGE OF PHARMACY.—At the annual meeting held January 14th, the following officers were elected: President, J. F. Judge; Recording Secretary, F. L. Eaton; Corresponding Secretary, E. S. Wayne; Treasurer, W. H. Negley; Trustees for short term (holding over), A. J. Tully, Paul Reinlein, Otto Taxis, John G. Fratz; Trustees for long term, J. M. Ayers, J. D. Wells, H. F. Reum, George Eger.

The report of the Recording Secretary, Mr. J. D. Ayers, gives a historical sketch of the new organization, which was effected on the 20th of October, 1871, as follows:

"During this winter strenuous efforts were made by the College to procure the passage of some general legislative enactment regulating the practice of pharmacy, but they were unsuccessful. The matter of obtaining a special act of incorporation for our College was also placed in the hands of a Committee who, on the 2d of April, reported that the present State law of incorporation was such that it was necessary, in order to obtain the legal power to grant diplomas, that our corporation should represent an actual capital of not less than \$5,000, and, at a meeting held on the 16th of the same month, it was unanimously resolved to reorganize the College as a joint stock company, under the name of the 'Cincinnati College of Pharmacy, for the purpose of,' &c. The resolution provided for the issue of certificates of stock, and all other details incident to the carrying out of the spirit of the resolution, and authorized the Board of Trustees to take all necessary measures to that end. The Committee appointed by the Board of Trustees, however, made the discovery that the charter of the old Cincinnati College of Pharmacy, dated March 23, 1850, was still in force, and not affected, as had been supposed, by more recent

laws, and that it granted to that old organization just the powers we were seeking, and they proposed that a sufficient number of members of the old College should unite in a request to the President thereof for a called meeting of the same, and that at said meeting propositions should be submitted from this new organization looking to their absorption by the old, and a transfer of the properties, moneys, &c., of this organization to the old one. A resolution embodying this proposition and continuing the Committee for the purpose of reporting details of arrangements, was adopted at a meeting of the College on May 7th. In pursuance of this arrangement, at the request of several members of the old College, the President, W. J. M. Gordon, called a meeting thereof, which convened at College Hall, on May 9th, when the proposition of the new College having been submitted, it was, by a unanimous vote, accepted, and the members then present proceeded to ballot for and elected as members those of the recent organization (eighty in number), as were not already members of the old College. The organization of 1871 subsequently held a meeting and passed a resolution approving of the consolidation and transfer of property, and adjourned without day."

The College has now 98 members in good standing.

PHARMACEUTICAL SOCIETY OF PARIS.—At the meeting held November 6th, Mr. Stan. Martin in the chair, a committee previously appointed reported adversely to M. Mayet and in favor of M. Méhu in regard to the priority of the discovery of the solubility of benzoate of iron in oils, the latter having published the facts in 1868. A new ebullioscope made by M. Malligand, was exhibited and referred to a special committee for examination and report. M. Roucher spoke about the collection of the materials for a universal pharmacopœia; several competent persons having promised their assistance, he desired to be charged with the execution of the work. The subject was referred to a Committee. M. Poggiale read a note by M. Dubois on two new processes for the preparation of sulphovinate of sodium. After cooling the sulphovinic acid, prepared in the usual manner, it is mixed with 96 per cent. alcohol and saturated with powdered purified carbonate of sodium. No particular precautions are necessary, since an excess of the carbonate will be left on the filter with the sulphate of sodium, and no elevation of temperature taking place, the chances of loss are avoided. The filtrate and alcoholic washings are distilled and evaporated in a water-bath to crystallization. Should the crystals be colored, one recrystallization from water and evaporation of the solution to a density of 36° or 38° will yield them perfectly white.

An editorial note in the *Journal de Pharmacie et de Chimie* calls attention to the possibility of an admixture of sulphovinate of sodium, prepared by means of barium carbonate, with sulphovinate of barium; hence the necessity of testing the salt with dilute sulphuric acid for barium, and with chloride of barium for carbonate (and sulphate) of sodium. When heated to about 120° C., sulphovinate of sodium gives off inflammable alcoholic vapors, and leaves acid sulphate of sodium.

The meeting of December 4th was mainly occupied with a discussion on the proposed *European Pharmacopœia** and the *Universal Pharmacopœia*, as suggested by the Pharmaceutical Congress of 1867.† M. Planchon was elected

* See American Journal of Pharmacy, 1872, p. 507.

† Ibid., 1867, p. 562.

in place of M. Robinet, deceased, a member of the Universal Pharmacopœia Committee, appointed some years ago, and it was decided to increase the number from five to nine, at the next session.

M. Regnault was elected Vice-President, M. Vigier, Secretary, and M. Desnoix, Treasurer, for 1873.

M. Doray, of Saint Lô, suggested laurel leaves (*Laurus nobilis*), as a substitute for cinchona; no observations with it are mentioned.

M. Guichard exhibited a dropping glass, the liquid running from a lateral orifice of three millimetres diameter, and producing drops of water weighing exactly five centigrams.

M. Boudet reported on a question pending before the Academy of Medicine, and which was raised by a letter of the prefect of police, inquiring whether, under the present laws, a midwife is authorized to prescribe ergot in cases of confinement, and whether it should be furnished by the pharmacist. Dr. Tarnier had reported that ergot is not named in the list of poisons. M. Poggiale is of the opinion that a midwife ought not to have the right to prescribe such a dangerous medicament.

THE PHARMACEUTICAL SOCIETIES OF BELGIUM were formally united in an *Association pharmaceutique générale de Belgique*, in which delegates only were allowed to speak and vote. A number of members demanded the same privileges for all members, and, this being refused, formed themselves into a *Fédération pharmaceutique belge*, which held its first meeting October 26th, in the free university of Brussels, and was formally organized by the election of officers. It is to be hoped that a reconciliation may be effected upon a basis recognizing the right of every member to a full expression of his views.

Editorial Department.

WHAT IS IN A NAME? On page 524 of our last volume we expressed the hope that the Columbia Pharmaceutical Association might not adopt the title of National College of Pharmacy: Professor Oscar Oldberg, in his inaugural address, considers it his duty to profit by the sneers of the uncharitable, and to so manage that in the "future all our institutions may partake of the nationalism of the city itself." To enable our readers to judge of the claims of the new institution to its name, we quote from the Professor's address, premising that the italics in the following quotation are his:

"Washington is to our country the natural rendezvous of communicative and curious minds of all orders. People from all parts of the Union meet here continually, and men of learning, imagination, and wealth, *will* congregate here as fast as we are prepared to receive them. This cosmopolitan American capital of ours has *always* attracted visitors from the most remote corners of our country, but the trouble heretofore has been that they did not deem it profitable or pleasant to remain with us. This difficulty is now, to a great extent, remedied, and we are at last able to present such inducements as will both make the concourse greater and their stay longer. Here is the place then to compare notes, and our city will eventually become the intellectual and edu-

educational, as well as the political, center of our land. In fact, gentlemen, I can see no reason why we should not act upon that proposition *now*.

"The step-motherly treatment that our city has received at the hands of our fellow-citizens throughout the States, is as proverbial as it is inconsistent. They have chided us because we did not, *in our sweat*, improve the common property, surround the *public* buildings with splendid avenues, and prepare for *them* a city in which they may take pride and delight, until we have returned good for evil, and brought them to an inglorious surrender withal.

"They berated *us* because the capital of the nation was not what *they* would have it, because it was not worthy of the nation, because it had no attractions, but especially because it had no national institutions of any kind save the governmental departments. They expected to find at Washington not only such advantages as they had been accustomed to in their respective States, but above all everything that they did *not* have themselves. And why? Because, as they have repeatedly told us, the capital of the nation *ought* to have such institutions.

"When Pericles, the Greek, was accused by his countrymen of squandering the public money on those noble national edifices, of which Athens afterwards boasted, he offered to execute them at his own expense, provided the people would suffer him to inscribe *his* name on them instead of *theirs*. We do not wonder that the Athenians keenly felt the rebuke. But what are *we* to say, who have singlehanded undertaken to provide for *our* exacting countrymen without experiencing a sign of encouragement, or *claiming a tittle of the honor for ourselves!* Let us tell them that we have ceased to be sensible to their unjust reproaches, but that we still have faith in the future, and in the generous national pride that lies at the bottom of the American heart, well knowing that *the loudest are the least generous.*"

When the Professor, further on, says that the institutions in Washington "must not—nay, *cannot* be sectional to succeed," we feel compelled to express our sincere regret that he does not draw a distinction between "sectional" and "local," and to state that our views are still those expressed in our November number, and cannot be changed upon the empty accusations of sneering and uncharitableness.

REVIEWS AND BIBLIOGRAPHICAL NOTICES.

The Pharmacopœia of the United States of America. Fifth decennial revision. By authority of the National Convention for revising the Pharmacopœia held at Washington, D. C., A. D. 1870. Philadelphia: J. B. Lippincott & Co. 1873. 12mo, pp. 405. Price, \$1.75.

This anxiously looked-for work has at last made its appearance, and, considering the labor that has been bestowed upon it, and the great care necessary in printing to avoid errors of sense not only, but also to render the language uniform throughout, the delay has not been too long.

In accordance with a resolution of the National Convention, the scope of the work has been rather extended, so as to adapt it to the wants of our extended country. Accordingly 27 articles have been added to the lists of *materia medica*, and 82 new preparations were admitted, while only 12 drugs and preparations have been dismissed, and the formulas of most of the pharmaceutical preparations and some of the chemicals have been more or less altered.

Individually we are not in favor of the arrangement which is still adhered to in our Pharmacopœia—the only modern one, we believe—of dividing the medi-

cial articles into materia medica and preparations; nor are we convinced of the propriety of giving elaborate directions for the preparation of chemicals which are rarely or never made by the pharmacist. In respect to the former, inconsistencies cannot be avoided, and it is certainly not conducive to the convenience in using the work of having the medicinal articles arranged in three different groups. Apparently there is no reason why most of the acids, and of the salts of ammonium, calcium, iron, magnesium, manganese, lead, potassium, &c., should not have received the same consideration in regard to elaborate processes as other similar preparations, or as the pure alkaloids and their salts, which, like the former, are, perhaps, never made in any pharmacy.

In chemistry there are usually different methods of attaining the same end, and it strikes us that any process for obtaining a chemical compound of a definite composition should be admissible, provided this compound, in regard to purity, comes up to the requirements of the Pharmacopœia. It is not impossible that the necessity of obtaining many chemicals from the manufacturing chemists for which the Pharmacopœia gives processes has had a great influence upon the pharmaceuticals also, in banishing their preparation from many pharmacies, and in establishing for such products of manufacturers a confidence the correctness of which can in most cases not be proven, and which in many instances is entirely undeserved.

The directions for preparing the fluid extracts have been considerably changed and improved, so as to avoid complicated processes, simplify the manipulations, save the menstruum and omit evaporation as much as possible. When the directions are strictly followed, the material will in all cases be practically exhausted, and the preparation will fully represent the crude drug. The strength of the troyounce to the fluidounce has been made uniform for all fluid extracts. In this connection it should be mentioned that the fluid extract of wild cherry is entirely different from that of the former Pharmacopœia, containing now only a portion of the hydrocyanic acid and volatile oil formed, but the entire amount of the astringent and bitter principles.

The change in the nomenclature of the chemical preparations is particularly commendable, inasmuch as it establishes a uniformity and consistency which has been more or less wanting in all pharmacopœias. This change is in accordance with the suggestions advanced by Professor Attfield, and commented upon in a former number;* thus, we have now ammonii carbonas, magnesii sulphas, potassii bitartras, sodii boras, &c., while such names as alumen, calx, creta, ammonia, magnesia, potassa, soda have been retained, the last four for the oxides or hydrates.

In addition to the tables which have been usually found in our national Pharmacopœia, some new ones have been added in the present edition, which will be of great service to many pharmacists; we refer to the tables on the decimal weights and measures, and their relation to those of the Pharmacopœia.

It is to be hoped that physicians and pharmacists will now, without unnecessary delay, make the new Pharmacopœia their guide in prescribing, and par-

* See American Journal of Pharmacy, 1871, p. 334.

ticularly in making the preparations; in the latter case observations should be carefully made, and where the results may differ from those of the Committee, the experience, after careful verification, should be communicated for publication, so that the sixth revision of the Pharmacopœia may become even more perfect. In its general appearance the work leaves nothing to desire.

Pharmacopœia Germanica. Berolini apud Rudolphum de Decker. MDCCC-LXXII. 8vo, pp. 442.

The German Pharmacopœia, in accordance with a decree of the Chancellor of the Empire, has taken the place of the various pharmacopœias formerly in use in Germany, since November 1st, 1872. In 1871 a committee, consisting of twelve prominent pharmacists, physicians, and professors in universities, selected from all sections of Germany, was charged with compiling and editing the pharmacopœia which is now before us. With the exception of the Chancellor's decree, above referred to, and the popular names of drugs and medicines, it is printed throughout in the Latin language.

The crude articles and preparations are arranged in alphabetical order. After the official name, the popular name and the Latin synonyms are given, and in the case of vegetable and animal drugs, their origin, which is followed by rather lengthy descriptions of the drugs and notices of the probable impurities.

In all the formulas quantities are expressed solely in parts (by weight). Percolation is not practiced; tinctures, extracts, &c., are made by maceration or digestion, with subsequent expression, even if the menstruum used be ether. Chemicals, like the crude drugs, are described according to their physical properties, solubilities, &c., and tests for ascertaining their medicinal purity are given. Only in such cases where different processes yield different results the Pharmacopœia has adopted a formula.

A list of reagents is added, followed by several important tables. Table A contains the maximum doses of potent medicines, beyond which the physician is not allowed to prescribe, nor the pharmacist to dispense, unless the prescriber adds the sign ! , indicating that the unusual dose ordered is not a mistake on his part. Table B enumerates the poisons which are to be kept separate from the other medicines, and under lock and key. Table C gives the more or less dangerous medicaments which have to be kept in a separate place, but need not be locked up. A list of specific gravities at 15° C. follows, which have to be ascertained on the inspection of the pharmacies, and then a table giving the percentage by weight and measure of anhydrous alcohol contained in spirit of a given specific gravity.

The nomenclature is similar to that of the last Prussian Pharmacopœia.

To adapt the work to the wants of the different sections of Germany, a larger number of preparations have been admitted than were found in most pharmacopœias of the different German States. It contains a number of articles which are little or not known in this country. In a future number we intend to quote some of them, want of space not permitting it in the present issue.

Wöhler's Outlines of Organic Chemistry. By Rudolph Fittig, Ph.D., Nat.Sc.D., Professor of Chemistry in the University of Tübingen. Translated from the eighth German edition, with additions by Ira Remsen, M.D., Ph.D., Professor of Chemistry and Physics in Williams College, Mass. Philadelphia: Henry C. Lea. 1873. 12mo, pp. 530.

Wöhler's Outlines have been for so long a time a text-book in Germany, and its value as such has been there so universally acknowledged, that Professor Remsen has conferred quite a benefit upon the student of chemistry by translating this valuable work, and by additions bringing it up to the state of science at the date of its publication. He well and truly remarks in the preface: "The beginner will find a simple principle of classification, carefully carried out, eminently fitted to his first object of obtaining a general view of the subject; the advanced will find it exceedingly rich in statements of facts with which he has constantly to deal." We cannot speak more fittingly of a work which for more than a quarter of a century has fulfilled its mission so well, and in the various editions through which it has passed has kept pace with the progress in chemistry, as might indeed have been expected from its authors. We heartily recommend it as a very useful book.

The Chemist's and Druggist's Diary and Pharmaceutical Text-Book. 1873. 4to, 92 pages, and 32 pages of advertisements.

This convenient work is published by "The Chemist and Druggist," London, and contains the diary upon 80 pages; then follow a number of medical, perfumery and miscellaneous formulas, a list of poisons and their antidotes, information about normal human weights and measurements, statistical &c. items, mainly relating to Great Britain, and a dictionary of incompatibles. The quarto size of the volume makes it particularly adapted to be used in the store. We select a few from the numerous formulas:

Phénol Sodique.—A popular preparation of carbolic acid for medical and dental purposes. Take of carbolic acid, in crystals, 188 grains, caustic soda 31 grains, pure water 4 fluidounces; mix. The carbolic acid should be free from offensive odor, such as is prepared for medicinal purposes. When first mixed it is nearly colorless, but in time it assumes a wine color, does not deposit any tarry residue, too often found in the commercial article. This formula is the result of numerous experiments, and gives an article that will compare favorably with the best French phénol sodique.

Bay Rum.—(Formula much employed in the West Indies). Fol. myrciæ 2 lbs., cardamomi $\frac{1}{2}$ lb., cassiæ cinnamomi 2 oz., caryophylli $1\frac{1}{2}$ oz., rum 9 qts. Distil $1\frac{1}{2}$ gallons.

(Probably the best imitation). Oil of bay 10 fluid-drachms, oil of pimento 1 fluid-drachm, æther acetic 2 fluidounces, alcohol 3 gallons, water $2\frac{1}{2}$ gallons. Mix, and filter after a fortnight.

Proceedings of the American Pharmaceutical Association at the twentieth annual meeting, held in Cleveland, Ohio, September, 1872. Also the Constitution and roll of members. Philadelphia: Sherman & Co., Printers, 1873. 8vo. pp. 354. Bound in cloth, price \$3.00.

This volume has just been published, and will at once be distributed to the

members. The annual report on the Progress of Pharmacy did not reach the Secretary, and is missing in this annual publication for the first time since 1857. The papers read at the last meeting were 27 in number, quite a falling off from the number read at the St. Louis meeting; many of them, however, are of considerable interest. Not less than 23 queries have been continued to members, at their request, to be reported on at the meeting in Richmond, in September next, and 47 new queries have been propounded, of which number 39 were accepted for report by members, and 8 left for general acceptance, so that at the next meeting many interesting subjects will be brought forward if the members will in due season institute the necessary inquiries and experiments. In our next number we intend to publish, entire or in abstract, some of the papers, several of which are illustrated by woodcuts. The report on the drug market contains much information, mostly statistical, and the report on legislation, a collection of the pharmaceutical laws enacted last year. In an appendix, information is given on the signal service of the United States, embellished by three handsome weather maps and the meteorological record with synopsis, probabilities and facts for one day, as issued by the Chief Signal Officer, in Washington, D. C.

OBITUARY.

CHRISTIAN CARL ARTHUR CASSELMANN, Ph. D., M. Phar., and Editor of the *Pharmaceutical Journal for Russia*, died in St. Petersburg, November 16th, 1872, aged 44 years. The deceased has been a hard and successful worker towards raising the status of pharmacy in his adopted country, Russia, and his learning and amiable character have gained him the esteem and love of a large circle of friends in all countries where scientific pharmacy is valued. In him, the American Pharmaceutical Association loses one of its honorary members, and the Philadelphia College of Pharmacy one of its corresponding members. The deceased, we believe, had also been elected an honorary member of several other American societies.

ADOLPHE GEORGES GUILLEMETTE, a distinguished pharmacist of Paris, died there, after an illness of three weeks, at the age of 64 years, and was buried October 28th, when, in the name of the Paris Pharmaceutical Society, Mr. Gobley pronounced an eulogium, from which we take the following notes:

"The deceased was born in 1808, at Magny, near Caën, studied pharmacy at Bretteville, with his uncle, and subsequently came to Paris, obtaining an engagement with M. Boutron-Charlard, whom he succeeded in business in 1835, which he carried on with assiduity and success for 35 years. In connection with M. Boutron he established the identity with mannite of grenadin, a crystalline principle obtained from pomegranate bark; the crystalline odorous principle of melilot was proven by him to be identical with coumarin of Tonka beans."

DR. L. CARIUS, Professor of Chemistry in the University of Marburg, died in December last. He enjoyed a well deserved reputation as an analyst, but devoted his researches not exclusively to analysis, extending them also to many mostly organic, compounds, as the derivatives of benzole, propyl, glycerin, &c.